Table 32.1 Design Equations for Simple Panels Under Uniform Loading

Type of Panel	Maximum Stress	Maximum Deflection
Rectangular simply supported	$S = \frac{qa^2 A_1}{t^2}$	$\delta = \frac{qa^4 A_2}{Et^3}$
Rectangular built-in	$S = \frac{qa^2 A_3}{t^2}$	$\delta = \frac{qa^4 A_4}{Et^3}$
Elliptical simply supported	$S = \frac{qa^2 A_5}{t^2}$	$\delta = \frac{qa^4 A_6}{Et^3}$
Elliptical built-in	$S = \frac{qa^2 A_7}{t^2}$	$\delta = \frac{qa^4 A_8}{Et^3}$

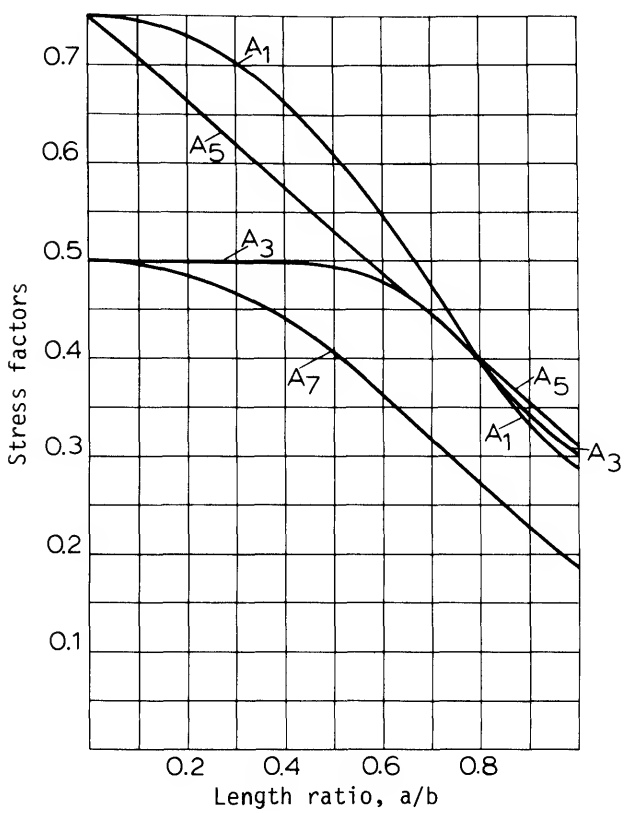

Fig. 32.2 Stress chart for simple panels.